



Cepc

Docket No.: 43888-067

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of	:	Customer Number: 20277
	:	
Keiko YUGAWA, et al.	:	Confirmation Number: 1982
	:	
Application No.: 09/406,832	:	Group Art Unit: 1753
Patent No. 6,773,564 B1	:	
	:	
Filed: September 28, 1999	:	Examiner: A. Noguerola
Issued: August 10, 2004	:	
	:	
For: GLUCOSE SENSOR	:	

**Certificate**  
**JAN 21 2005**  
**of Correction**

**REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 CFR 1.322**

Mail Stop Box 4 / Certificate of Correction  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In reviewing the above-identified patent, a printing error was discovered therein requiring correction in order to conform the Official Record in the application.

The error noted is set forth on the attached copy of form PTO-1050 Rev. 2-93 in the manner required by the Commissioner's Notice.

Specifically, in Item "OTHER PUBLICATIONS", page 3, right-hand columns, 7th paragraph, authors Dyah Iswantini et al, the cited page numbers should be changed from "245-254" to --249-254--. The correct numbers are highlighted on the last page, third cite from the bottom, on the attached 1449 form (initialed by the Examiner on 10/30/01).

In addition, please add the three references as shown on the attached Form 1050. These references are highlighted on the attached 1449 forms.

**21 JAN 2005**

**09/406,832**

Patent No. 6,773,564

The change requested herein occurred as a result of printing the Letters Patent and the Certificate should be issued without expense under Rule 322 of the Rules of Practice. Accordingly, Applicants request issuance of the Certificate of Correction.

Please charge any shortage in fees due in connection with the filing of this paper to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



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**Please recognize our Customer No. 20277  
as our correspondence address.**

WDC99 1028158-1.043888.0067

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,773,564 B1

DATED : August 10, 2004

INVENTOR(S) : Keiko YUGAWA, et al.

It is certified that error appears in the above-identified patent and that said Letter Patent is hereby corrected as shown below:

In OTHER PUBLICATIONS, page 3, right-hand column, 7th paragraph, reference authored by Dyah Iswantini et al, change the cited pages from "245-254" to --249-254--.

At the bottom of the right-hand column, add the following references:  
-- Toshihikio YOSHIOKA et al., Disposable Biosensor Based on Bioelectrochemistry, National Technical Report Vol. 42, No. 2, Apr. 1996, pp. 71-75.

Koji Sode, Satoshi Nakasono, Mitsuharu Tanaka and Tadashi Matsunaga, Subzero Temperature Operating Biosensor Utilizing an Organic Solvent and Quinoprotein Glucose Dehydrogenase, 1993, Biotechnology and Bioengineering, Vol. 42, pp. 251-254.

Asteriani R. Dewanti and Johannis A. Duine,  $\text{Ca}^{2+}$ -Assisted, Direct Hydride Transfer, and Rate-Determining Tautomerization of C5-Reduced PQQ to PQQH<sub>2</sub> in the Oxidation of  $\beta$ -D-Glucose by Soluble, Quinoprotein Glucose Dehydrogenase, 2000, Biochemistry 2000, Vol. 39, pp. 9384-9392.--.

SERIAL NO..  
**09/406,832**

**FILING DATE**  
**September 28,**  
**1999**

GROUP  
1743

U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No

## OTHER ART (Including Author, Title, Date, Permanent Pages, Etc.)

"Disposable Biosensor Based on Bioelectrochemistry", Toshihiko YOSHIOKA et al., National Technical Report Vol. 42, No. 2, Apr. 1996, pp. 71-75

RECEIVED  
MAY 15 2002  
TC 1700

EXAMINER

DATE CONSIDERED

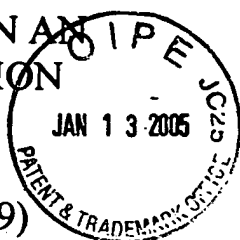
7/03/2002

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

21 JAN 2005

INFORMATION DISCLOSURE  
CITATION IN AN  
APPLICATION

(PTO-1449)



ATTY. DOCKET NO.  
43888-067

SERIAL NO.  
09/406,832

APPLICANT  
Keiko YUGAWA, et al.

FILING DATE  
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## U.S. PATENT DOCUMENTS

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EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

am	Hiroshi Yoshida and Koji Sode, Thr424 to Asn Substitution Alters Bivalent Metal Specificity of Pyrroloquinoline Quinone Glucose Dehydrogenase, 1997, J. Biochem. Mol. Biol. & Biophys., Vol. 1, pp. 89-93
am	Arief Budi Witarto, Shokichi Oh-Uchi, Mitsuaki Narita, and Koji Sode, Secondary Structure Study of Pyrroloquinoline Quinone Glucose Dehydrogenase, 1999, J. Biochem. Mol. Biol. & Biophys., Vol. 1, pp. 209-213
am	Koji Sode and Hiroyuki Sano, Glu742 Substitution To Lys Enhances The EDTA Tolerance of Escherichia Coli PQQ Glucose Dehydrogenase, 1994, Biotechnology Letters, Vol. 16, No. 5, pp. 455-460
am	Arief Budi Witarto, Takafumi Ohtera, and Koji Sode, Site-Directed Mutagenesis Study on the Thermal Stability of a Chimeric PQQ Glucose Dehydrogenase and Its Structural Interpretation, 1999, Applied Biochemistry and Biotechnology, Vol. 77-79, pp. 159-168
am	Marcel Dekker, Inc., Oxygen Insensitive Glucose Biosensor Based on PQQ-Dependent Glucose Dehydrogenase, 1999, Analytical Letters, Vol. 32(2), pp. 299-316
am	Kazunobu Matsushita, Hirohide Toyama, Minoru Ameyama, Osao Adachi, Aster Dewanti, and Johannis A. Duine, 1995, Biosci. Biotech. Biochem, Vol. 59(8), pp. 1548-1555

7 made entries

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U	Minoru Ameyama, Masatsugu Nonobe, Emiko Shinagawa, Kazunobu Matsushita, Koichi Takimoto, and Osao Adachi, 1986, Agric. Biol. Chem., Vol. 50(1), pp. 49-57 ¶
CM	Minoru Ameyana, Emiko Shinagawa, Kazunobu Matsushita, and Osao Adachi, D-Glucose Dehydrogenase of Gluconobacter suboxydans: Soubilization, Purification and Characterization, 1981, Agric. Biol. Chem., Vol. 45(4), pp. 851-861 ¶
CM	Jens G. Hauge, Glucose Dehydrogenase of Bacterium anitratum: an Enzyme with a Novel Prosthetic Group, 1964, Vol. 239, No. 11, pp. 3630-3639 ¶
	Koji sode, Satoshi Nakasono, Mitsuharu Tanaka, and Tadashi Matsunaga, Subzero Temperature Operating Biosensor Utilizing an Organic Solvent and Quinoprotein Glucose Dehydrogenase, 1993, Biotechnology and Bioengineering, Vol. 42, pp. 251-254
CM	Tokuji Ikeda, Hiroshige Matsubara, Kan Kato, Dyah Iswantini, Kenji Kano, Mamoru Yamada, Electrochemical Monitoring of In Vivo Reconstitution of Glucose Dehydrogenase in Escherichia Coli Cells With Externally Added Pyrroloquinoline Quinone, 1998, Journal of Electroanalytical Chemistry, Vol. 449, pp. 219-224 ¶
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M	Koji Sode and Hiromi Yoshida, Construction and Characterization of a Chimeric Escherichia Coli PQQ Glucose Dehydrogenase (PQQGHD) with Increased EDTA Tolerance, 1997, Denki Kagaku, Vol. 65, No. 6, pp. 441-451
Ch	Tomohiko Yamazaki, Wakako Tsugawa, and Koji Sode, Increased Thermal Stability of Glucose Dehydrogenase by Cross-Linking Chemical Modification, 1999, Biotechnology Letters, Vol. 21, pp. 199-202 ¶
Ch	Koji Sode, Miki Shirahane, and Hiromi Yoshida, Construction and Characterization of A Linked-Dimeric Pyrroloquinoline Quinone Glucose Dehydrogenase, 1999, Biotechnology Letters, Vol. 21, pp. 707-710 ¶

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CM	Koji Sode, Koji Ito, Arief Budi Witarto, Kazumoto Watanabe, Hiromi Yoshida, Pieter Postma, Increased Production of Recombinant Pyrroloquinoline Quinone (PQQ) Glucose Dehydrogenase By Metabolically Engineered Escherichia Coli Strain Capable of PQQ Biosynthesis, 1996, Journal of Biotechnology, pp. 239-243
CM	Koji Sode, Sayaka Sugimoto, Mika Watanabe, Wakako Tsugawa, Effect of PQQ Glucose Dehydrogenase Overexpression In Escherichia Coli On Sugar-Dependent Respiration, 1995, Journal of Biotechnology, Vol. 43, pp. 41-44
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✓	Ling Ye, Martin Hammerle, Arjen J.J. Olsthoorn, Wolfgang Schuhmann, Hans-Ludwig Schmidt, Johannis A. Duine, and Adam Heller, High Current Density "Wired" Quinoprotein Glucose Dehydrogenase Electrode, 1993, Analytical Chemistry, Vol. 65, No. 3, pp. 238-241 Fe
✓	Hiromi Yoshida, Katsuhiro Kojima, Arief Budi Witarto and Koji Sode, Engineering a Chimeric Pyrroloquinoline Quinone Glucose Dehydrogenase: improvement of EDTA tolerance, thermal stability and substrate specificity, 1999, Protein Engineering, Vol. 12, No. 1, pp. 63-70 ↑
✓	K. Sode and K. Kojima, Improved Substrate Specificity and Dynamic Range For Glucose Measurement of Escherichia Coli PQQ Glucose Dehydrogenase By Site Directed Mutagenesis, 1997, Biotechnology Letters, Vol. 19, No. 11, pp. 1073-1077 ↑
✓	Tomohiko Yamazaki, Wakako Tsugawa, and Koji Sode, Subunit Analyses of a Novel Thermostable Glucose Dehydrogenase Showing Deifferent Temperature Properties According to Its Quaternary Structure, Applied Biochemistry and Biotechnology, Vol. 77-79, pp. 325-335 ↑
✓	Paul Dokter, John E. Van Wielink, Mario A.G. Van Kleef and Johannis A. Duine, Cytochrome b-562 from Acinetobacter Calcoaceticus L.M.D. 79.41, 1988, Biochem J., Vol. 254, pp. 131-138 ↑
✓	Koji Sode, Kazunori Matsumura, Wakako Tsugawa, and Mitsuharu Tanaka, Isolation of a Marine Bacterial Pyrroloquinoline Quinone-Dependent Glucose Dehydrogenase, 1995, J. Mar. Biotechnol, Vol. 2, pp. 214-218 ↑
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✓	Jens G. Hauge, Kinetics and Specificity of Glucose Dehydrogenase From Bacterium Anitratum, 1960, Biochim. biophys. Acta, Vol. 45, pp. 263-269. ↑
✓	Arthur Oubrie, Henriette J. Rozeboom, Kor H. Kalk, Johannis A. Duine and Bauke W. Dijkstra, The 1.7 Å Crystal Structure of the Apo Form of the Soluble Quinoprotein Glucose Dehydrogenase from Acinetobacter calcoacetis Reveals a Novel Internal Conserve Sequence Repeat, 1999, Vol. 289, pp. 319-333 ↑
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CM	Matthias Wanner, Torsten Sixt, Karl-Wilhelm Klinkhammer, and Wolfgang Kaim, First Experimental Structure of a 1:1 Metal Complex with a PPQ Cofactor Derivative Ouside Dehydrogenase Enzymes, 1999, Inorganic Chemistry, Vol. 38, No. 11, pp. 2753-2755 <b>+</b>
CM	Asteriani R. Dewanti and Johannis A. Duine, Reconstitution of Membrane -Integrated Quinoprotein Glucose Dehydrogenase Apoenzyme with PQQ and the Holoenzyme's Mechanism of Action, 1998, Biochemistry, Vol. 37, No. 19, pp. 6810-6818 <b>F</b>
CM	M. Alkasrawi, I.C. Popescu, V. Laurinavicius, B. Mattiasson and E. Csoregi, A Redox Hydrogel Integrated PQQ-Glucose Dehydrogenase Based Glucose Electrode, 1999, Anal. Communication, Vol. 36, pp. 395-398 <b>F</b>
Ch	Juan-R. Mor and Rocco Guarnaccia, Assay of Glucose Using an Electrochemical Enzymatic Sensor, 1977, Analytical Biochemistry, Vol. 79, pp. 319-328 <b>q</b>
CM	J.A. Duine, J. Frank and J.K. Van Zeeland, Glucose Dehydrogenase From Acinetobacter Calcoaceticus, FEBS Letters, 1979, Vol. 108, No. 2, pp. 443-446 <b>De</b>
CM	Dyah Iswantini, Kan Kato, Kenji Kano, Tokuji Ikeda, Electrochemical Measurements of Glucose Dehydrogenase Activity Exhibited By Escherichia Coli Cells; Effects of the Additions of Pyrroloquinoline Quinone, Magnesium or Calcium Ions and Ethylenediaminetetraacetic Acid, 1998, Bioelectrochemistry and Bioenergetics, Vol. 46, pp. 249-254 <b>F</b>
CM	Kazunobu Matsushita, Emiko Shinagawa, Osao Adachi and Minoru Ameyama, Quinoprotein D-glucose Dehydrogenases in Acinetobacter Calcoaceticus LMD 79:41: Purification and Characterization of the Membrane-Bound Enzyme Distinct from the Soluble Enzyme, 1989, Antonie van Leeuwenhoek, Vol. 56, pp. 63-72 <b>F</b>
Ch	Gyles E. Cozier and Christopher Anthony, Structure of the Quinoprotein Glucose Dehydrogenase of Escherichia Coli Modelled on that of Methanol Dehydrogenase from Methylobacterium Exorquens, 1995, Biochem. J., Vol. 312, pp. 679-685 <b>+</b>
EXAMINER	DATE CONSIDERED
<i>Ch. Kogersala</i>	<i>10/34/01</i>

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

21 JAN 2005